

Translation

PATENT COOPERATION TREATY

PCT/EP2003/002774



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 02024 WO/Sa	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/002774	International filing date (day/month/year) 17 March 2003 (17.03.2003)	Priority date (day/month/year) 21 March 2002 (21.03.2002)
International Patent Classification (IPC) or national classification and IPC B29C 70/08, 70/46, 70/50, B32B 5/28		
Applicant MENZOLIT FIBRON GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 15 October 2003 (15.10.2003)	Date of completion of this report 05 April 2004 (05.04.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/002774

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages _____ 1-8 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages _____ 2-12,14-23,26-28 _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____ 1,13,24,25 _____, filed with the letter of _____ 01 April 2004 (01.04.2004)
- ☒ the drawings:
pages _____ 1/3-3/3 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-28	YES
	Claims		NO
Inventive step (IS)	Claims	1-28	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-28	YES
	Claims		NO

2. Citations and explanations

1. Reference is made to the following document:

D1: DE 199 49 318 A (MENZOLIT FIBRON GMBH) 15 March
2001 (2001-03-15)

2.1 Document D1, which is regarded as the closest prior art, discloses a method for producing plastic prepegs from fibre-reinforced plastics, sheet moulding compounds, for use as semifinished products in the manufacture of components by means of extrusion (see column 1, lines 3 to 6), the scrim-type reinforcement of the plastic prepegs being formed from at least one layer of intersecting fibres (see column 4, lines 54 to 63), the alignment of these fibres, the fibre orientation, being adapted to the stress generated by the forces acting on the component (see column 1, lines 55 to 68), from which the subject matter of claim 1 differs in that:

- the scrim reinforcement, which resembles a textile structure, is formed from continuous fibres; and
- the scrim reinforcement is drawn in a single piece off a roll and after being impregnated

with the resin is cut according to the predefined contour.

The subject matter of claim 1 is thus novel (PCT Article 33(2)).

2.2 The problem to be solved by the present invention can thus be considered that of simplifying the production of plastic prepegs, which is expensive and complicated.

2.3 In the production of plastic prepegs (see document D1), the reinforcement is formed from unidirectionally aligned fibres. Therefore, for producing a component, the cuttings must be folded for each direction of stress so that the orientation of the fibres corresponds to the stress in the component.

In contrast, in the solution proposed by the present application, the fibres are already arranged so that they extend in the direction in which the forces act on the component.

None of the citations shows or suggests this solution. The subject matter of claim 1 thus involves an inventive step (PCT Article 33(3)).

2.4 Claims 2 to 12 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.

3.1 Document D1 further discloses a plastic prepeg in which the alignment of the fibres, the fibre orientation, is adapted to the stress generated by

the forces acting on the component (see column 1, lines 55 to 68),
from which the subject matter of claim 13 differs in that the scrim reinforcement of the plastic prepeg comprises at least one layer of intersecting continuous fibres resembling a textile structure.

The subject matter of claim 13 is thus novel (PCT Article 33(2)).

- 3.2 The problem to be solved by the present invention can therefore be considered that of simplifying the complicated structure of plastic prepegs.
- 3.3 None of the citations shows or suggests the solution whereby the scrim reinforcement resembles a textile structure consisting of precisely oriented, continuous fibres. The subject matter of claim 13 therefore involves an inventive step (PCT Article 33(3)).
- 3.4 Claims 14 to 23 are dependent on claim 13 and thus likewise meet the PCT requirements for novelty and inventive step.
- 4.1 The plastic prepeg produced according to the method in claim 1 is novel and inventive. Consequently, the subject matter of claims 24 and 25, relating to the use of the plastic prepeg with its claimed features, is novel and inventive (PCT Article 33(2) and (3)).
- 4.2 Claims 26 to 28 are dependent on claims 24 and 25 and therefore likewise meet the PCT requirements for novelty and inventive step.

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5. Claims 1 to 28 are industrially applicable (PCT Article 33(4)).